

AMENDMENT TO THE CLAIMS

Claim 1. (*Currently Amended*) A protective article for a joint of a person's body, said article comprising:

a rigid frame adapted to cover the joint, said rigid frame having a flexibility to allow bending of the protective article along at least one bending direction, said rigid frame comprising at least one bending zone having ~~an~~ at least one abutment limiting bending of the joint along said bending direction at a predetermined angle, said rigidity having a magnitude so ~~as~~ to avoid hyper-flexion of the joint beyond said predetermined angle.

Claim 2. (*Previously Presented*) A protective article according to claim 1, wherein:

the bending zone includes at least one notch substantially perpendicular to a bending plane; and

the notch is beveled to become closed for said predetermined bending angle so as to constitute said abutment.

Claim 3. (*Previously Presented*) A protective article according to claim 1, wherein:

the frame is fixed on a flexible and substantially inextensible membrane against movement along the membrane, the membrane being located on a side of the joint.

Claim 4. (*Previously Presented*) A protective article according to claim 2, wherein:

said bending zone includes an insert constituted of a compressible material positioned in said notch.

Claim 5. (*Previously Presented*) A protective article according to claim 2, wherein:

said rigid frame is extended on opposite sides of the bending zone by supports; and

said bending zone is thicker than said supports.

Claim 6. (*Previously Presented*) A protective article according to claim 5, further comprising:

an envelope; and

wherein at least one support cooperates with a shock-absorbing element affixed to said envelope for improving control of the bending by compression.

Claim 7. (*Previously Presented*) A protective article according to claim 6, wherein:

said shock-absorbing element is positioned in a pocket affixed to said envelope.

Claim 8. (*Previously Presented*) A boot incorporating a protective article according to claim 1, wherein:

said rigid frame is positioned, in an area of an ankle of a foot, on a front surface of the foot.

Claim 9. (*Previously Presented*) An assembly for binding a foot to a sports apparatus incorporating the protective article according to claim 1, wherein:

said rigid frame is positioned, in an area of an ankle of a foot, on a front surface of the foot.

Claim 10. (*Withdrawn*) A glove incorporating the protective article according to claim 1, wherein:

said rigid frame is positioned, at an area of a wrist of a hand, on a top of the hand.

Claim 11. (*Withdrawn*) A protective article according to claim 1, wherein:

said rigid frame is positioned, in an area of a knee, on a front surface of the leg.

Claim 12. (*Withdrawn*) A protective article according to claim 1, wherein:

said rigid frame is positioned on a spine and especially in an area of the neck, on the back.

Claim 13. (*Previously Presented*) A boot according to claim 8, wherein:

the boot includes a boot-tightening means, and wherein said rigid frame includes at least one cooperating mechanism complementary of said boot-tightening means.

Claim 14. (*Previously Presented*) A boot according to claim 8, wherein:

the boot includes a shell supported on a sole; and

the rigid frame includes a front support fixed on said shell over an instep area.

Claim 15. (*Previously Presented*) A boot according to claim 14, wherein:

said shell includes a recess in an area for accommodating toes of a wearer.

Claim 16. (*Previously Presented*) A protective article according to claim 1, wherein:

said predetermined angle, for an ankle, has a value comprised between $+30^{\circ}$ and $+45^{\circ}$.

Claim 17. (*Previously Presented*) A protective article according to claim 5, wherein:
said bending zone is narrower than said supports.

Claim 18. (*Previously Presented*) A protective article according to claim 1, wherein:
the frame is fixed on a flexible and substantially inextensible membrane against movement along the membrane.

Claim 19. (*Currently Amended*) An article for protecting a joint of a person's body from hyper-flexion, said article comprising:

a body adapted to be placed over the joint;

a frame mounted on said body over ~~adapted to be placed along~~ the joint, the frame having a length adapted to extend along a bending plane between a first end and a second end;
said frame having at least one bending zone between said first and second ends, and first and second support areas on opposite sides of said bending zone;

said frame being more rigid, at least in said bending zone, than said body;

said bending zone having a flexibility adapted to allow bending of the frame in a bending direction within said bending plane through a range of bending;

at least one abutment comprising a pair of opposed edges within said bending zone,
said frame having a rigidity, at least in said bending zone, sufficient to prevent said bending of said frame at said bending zone beyond said range of bending during use of the article and to avoid hyper-flexion of the joint.

Claim 20. (*Previously Presented*) A protective article according to claim 19, wherein:

said at least said one abutment comprises a notch extending substantially perpendicular to said bending plane;

at a beginning of said range of bending said notch is open, and at an end of said range of bending said notch is closed.

Claim 21. (*Previously Presented*) A protective article according to claim 19, wherein:

said at least said one abutment comprises a notch having abutment surfaces extending substantially perpendicular to said bending plane;

said abutment surfaces of said abutment are not engaged at a beginning of said range of bending, and said abutment surfaces of said abutment abut at an end of said range of bending.

Claim 22. (*Previously Presented*) A protective article according to claim 19, wherein:

said at least said one abutment comprises a notch extending substantially perpendicular to said bending plane;

a compressible insert is positioned within said notch, said insert being fully compressed at an end of said range of bending.

Claim 23. (*Previously Presented*) A protective article according to claim 19, wherein:

said abutment comprises a notch, said notch not extending entirely through said frame.

Claim 24. (*Canceled*)

Claim 25. (*Previously Presented*) A protective article according to claim 19, further comprising:

a bendable and substantially inextensible base;
said frame being fixed against sliding movement along said base.

Claim 26. (*Previously Presented*) A protective article according to claim 19, wherein:
said bending zone has a thickness greater than a thickness of either of said support areas of said frame.

Claim 27. (*Previously Presented*) A protective article according to claim 19, further comprising:

a shock-absorbing element positioned for engagement with said frame, said shock-absorbing element being compressible during bending of said frame.

Claim 28. (*Previously Presented*) A protective article according to claim 27, further comprising:

a pocket;
said shock-absorbing element being positioned within said pocket.

Claim 29. (*Previously Presented*) A protective article according to claim 19, wherein:
the protective article is adapted to protect an ankle against hyper-flexion; and
said range of bending has an end value no greater than between 30° to 45° from
a beginning value.

Claim 30. (*Currently Amended*) A boot comprising:
an upper having a high portion and a low portion, the high portion adapted to
extend higher than an ankle of a wearer and the low portion adapted to extend along an instep
of the wearer;
a frame comprising a tibia support, an instep support, and a bending zone between
the tibia and instep supports;
said bending zone of said frame having a flexibility adapted to allow bending of said
tibia support in a bending direction relative to said instep support within a bending plane through
a range of bending, said range of bending comprises an angle of movement of no greater than
45°;
at least one abutment comprising a pair of abutting edges within said bending zone,
said frame having a rigidity, at least in said bending zone, sufficient to prevent said bending of
said frame at said bending zone beyond said range of bending during use of the boot.

Claim 31. (*Previously Presented*) A boot according to claim 30, wherein:
said at least said one abutment comprises a notch extending substantially
perpendicular to said bending plane;
at a beginning of said range of bending said notch is open, and at an end of said
range of bending said notch is closed.

Claim 32. (*Previously Presented*) A boot according to claim 30, wherein:

said at least said one abutment comprises a notch having abutment surfaces extending substantially perpendicular to said bending plane;

said abutment surfaces of said abutment are not engaged at a beginning of said range of bending, and said abutment surfaces of said abutment abut at an end of said range of bending.

Claim 33. (*Previously Presented*) A boot according to claim 30, wherein:

said at least said one abutment comprises a notch extending substantially perpendicular to said bending plane;

a compressible insert is positioned within said notch, said insert being fully compressed at an end of said range of bending.

Claim 34. (*Previously Presented*) A boot according to claim 30, wherein:

said notch does not extend entirely through said frame.

Claim 35. (*Currently Amended*) A boot according to claim 30, wherein:

said frame is more rigid than said upper.

Claim 36. (*Previously Presented*) A boot according to claim 30, further comprising:

a bendable and substantially inextensible base;

said frame being fixed against sliding movement along said base.

Claim 37. (*Previously Presented*) A boot according to claim 30, wherein:

said bending zone has a thickness greater than a thickness of either of said supports of said frame.

Claim 38. (*Previously Presented*) A boot according to claim 30, further comprising:

a shock-absorbing element positioned for engagement with said frame, said shock-absorbing element being compressible during bending of said frame.

Claim 39. (*Previously Presented*) A boot according to claim 38, further comprising:

a pocket;

said shock-absorbing element being positioned within said pocket.

Claim 40. (*Previously Presented*) A boot according to claim 30, wherein:

said upper comprises a tongue; and

said frame is fixed to said tongue.